Field Assessment of Dismounted Soldier Performance

open campus

S&T Campaign: Human Sciences
Human Behavior
Real World Behavior

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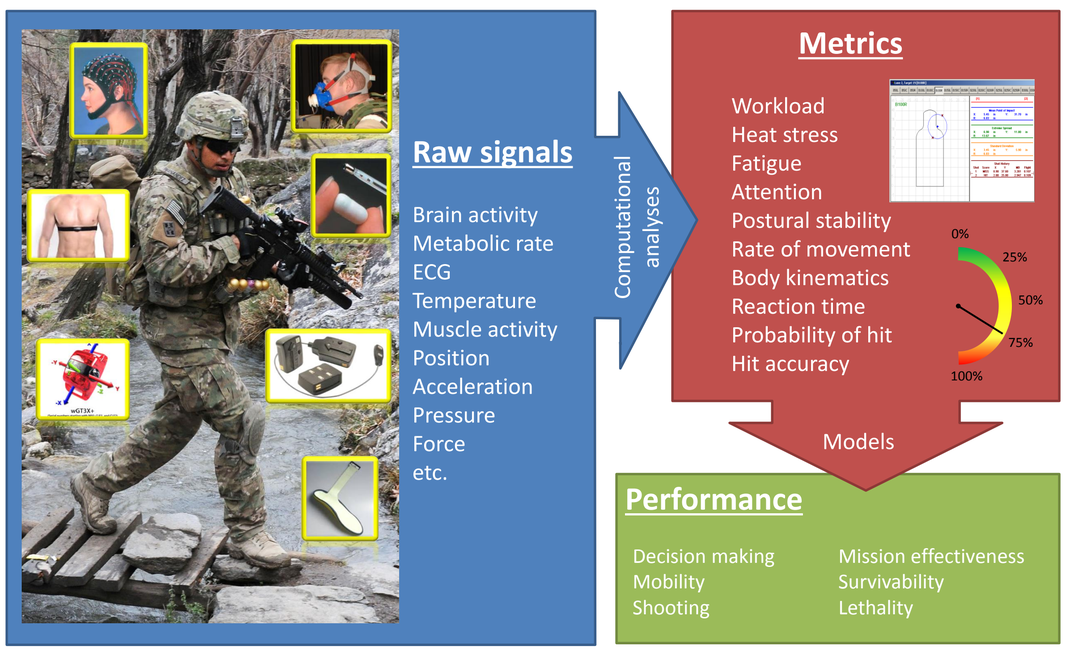
Research Objective

- **Develop unobtrusive methods and validated metrics for field assessments of dismounted Soldier performance across the spectrum of operational tasks**
- **Generate models of operational task performance for individuals and teams of dismounted Soldiers based on data collected in field environments**



Field assessment of dismounted Soldier task performance

Challenges

- **Obtaining high fidelity data in complex environments during dynamic tasks performed over long durations**
- **Identification of signals and metrics that best predict or describe the individual Soldier and team performance for a variety of operational tasks**
- **Task identification and workload classification from body worn sensor data**
- **Developing models of performance that account for individual variability, environment, task type, workload, and changes in individual Soldier and team state over time**

ARL Facilities and Capabilities Available to Support Collaborative Research

- **Soldier Performance and Equipment Advanced Research (SPEAR) facility at APG, MD**
  - Biomechanics laboratory
    - Optical motion capture
    - Force sensing treadmill
  - Instrumented obstacle course
    - Operationally relevant tasks
    - Timing gates
  - Networked cross-country course
    - Wifi enabled wooded area
    - Natural obstacles and terrain
    - Pop up targets
- **Shooting performance facility (M-Range) at APG, MD**
  - Computer controlled targets
  - Accuracy and response time
- **Technical Expertise in:**
  - Biomechanics and exercise physiology
  - Neuroscience
  - Cognitive science
  - Mobility and shooting performance
  - Data collection in dynamic environments

ARL facilities for dismounted Soldier performance research

Complementary Expertise / Facilities / Capabilities Sought in Collaboration

- **Novel sensors for monitoring human state and behavior in field environments**
- **Physical and cognitive performance metrics**
- **Methodologies and expertise in computational analyses to support stated research objectives and challenges**